

WHAT IS CLAIMED IS:

1. A notebook computer to receive infrared signals from an infrared input device, comprising:

a computer base section contained a keyboard and having a base frame;

a display section, said display section comprising a display frame with a bezel holding a liquid crystal display, said display section coupled to said computer base by hinges; and

an infrared sensor coupled to said notebook computer; wherein said infrared sensor is disposed on the display frame of said display section so that a wide angle infrared detection response is achieved.

2. The notebook computer of Claim 1, wherein said infrared sensor is disposed on an upper portion of said frame of said display section opposed to said hinges.

3. The notebook computer of Claim 1, further comprising at least one additional infrared sensor disposed on said notebook computer.

4. A notebook computer to receive infrared signals from an infrared input device, comprising:

a computer base section contained a keyboard and having a base frame;

a display section, said display section comprising a display frame with a bezel holding a liquid crystal display, said display section coupled to said computer base by hinges;

at least two infrared sensors coupled to said notebook computer; and a signal combining element to combine the output signals from said sensors;

wherein said infrared sensors are disposed so that a wide angle infrared detection response is achieved.

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consist of two sensors disposed in the bezel frame of said display section.

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said optical encoder providing output signals in response to rotation of said ball; and

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11. The input device of Claim 10, further comprising an infrared transmitter coupled to said frame to transmit data pulses corresponding to the output signals of said optical encoder in the position sensing mode.

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12. The mouse input unit of Claim 11, further comprising a range switch coupled to said frame, said range switch comprising at least two infrared transmitter power settings for said infrared transmitter.

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13. The input device of Claim 11 in which the infrared transmitter transmits the data pulses as bytes with a start bit so that no infrared data pulses are transmitted when said ball is in a quiescent state.

14. The input device of Claim 13, further comprising a user settable identification code.

15. The input device of Claim 11, further comprising a laser pointer.

16. A compact ergonomic multi-input infrared input unit for a notebook computer designed to be operated in two different hand and finger positions, comprising;

a frame, said frame having a substantially planar bottom surface, a substantially planar top surface, flared sides, and a first end and a second end;
at least one mouse button coupled to said top surface of said frame proximate to said first end;

a mouse ball coupled to said bottom surface of said frame;
an optical encoder coupled to said mouse ball, said optical encoder comprising photo-interruptors to measure the motion of said mouse ball;

a second pointing device emulating the pointing function of mouse disposed on the top surface of said frame; and

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an infrared transmitter coupled to said first end of said frame to transmit motion information from said rotary encoders and said second pointing device;

wherein said frame is dimensioned so that said input device may be operated as a mouse with the index and middle fingers of the hand on the top surface of said frame a portion of the thumb along the edge of said frame; and

wherein said frame is further dimensioned so that said input device may be held along its bottom surface in the palm of a hand with the entire top surface accessible by the thumb.

17. The input device of Claim 16, wherein said second pointing device is a touchpad.

18. The input device of Claim 16, wherein the top surface of said frame is about one average thumb-length long and two average thumb-length wide.

19. The input device of Claim 18, wherein the top surface is between six-to-eight centimeters in length and between four-to-six centimeters in width.

20. The input device of Claim 16, wherein said second pointing device is a trackball.

21. The input device of Claim 16, wherein said second pointing device is an ergo track input device.

22. The input device of Claim 16, wherein said second pointing device is an eraser-head type input device.

23. The input device of Claim 16, further comprising a laser pointer.

24. A multi-input infrared input unit for a notebook, comprising;

a frame, said frame having a substantially planar bottom surface, a substantially planar top surface, flared sides, and a first end and a second end;

at least one mouse button coupled to said top surface of said frame proximate to said first end;

5 a mouse ball coupled to said bottom surface of said frame;

an optical encoder coupled to said mouse ball, said optical encoder comprising photo-interruptors to measure the motion of said mouse ball;

a data input device to receive non-cursor related information, said data input device disposed on said frame; and

10 an infrared transmitter coupled to said first end of said frame to transmit digital data;

a control circuit coupled to said optical encoder and said data input device; and

15 a mode control switch coupled to said control circuit, said mode control switch acting to select a mouse mode and at least one other data input mode;

wherein said control circuit acts in said mouse mode to transmit infrared data pulses corresponding to the state of said optical encoder and said control circuit acts in said data input mode to transmit infrared data pulses corresponding to information received by said data input device.

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25. The multi-input infrared input unit of Claim 24, wherein said data input device is a microphone.

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26. The multi-input infrared input unit of Claim 24, wherein said data input device is a camera.

27. The multi-input infrared input unit of Claim 24, wherein said data input device is a finger print identification device.

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28. The multi-input infrared input unit of Claim 24, wherein said data input device is a joystick.

5 29. An notebook computer system, comprising:
an infrared input unit having a first cursor pointing device, said infrared input device transmitting cursor control information as infrared signals;

a notebook computer comprising a computer base section with a second cursor pointing device mounted on said base section and a display section comprising a frame with a bezel holding a liquid crystal display;

10 an infrared receiver coupled to said notebook computer to receive cursor control information from said infrared input unit; and

a signal arbitration circuit to determine how inputs from said first cursor pointing device and said second cursor pointing device are used to control cursor position;

15 wherein said infrared input unit is dimensioned to fit into a computer base section of said notebook computer.

20 30. The notebook computer system of Claim 29, wherein said signal arbitration circuit determines how inputs from a third cursor control device connected to an external port is used to control cursor position.

31. The notebook computer system of Claim 30, wherein the response of said signal arbitration circuit is programmable.

25 32. The notebook computer system of Claim 31, wherein said second cursor pointing device is always enabled and said computer may be programmed to lock-out said inputs from said infrared input device.

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33. The notebook computer system of Claim 19, wherein said notebook computer may be programmed to simultaneously accept inputs from both said second pointing device and said infrared input device.

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